

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A pilot signal detection circuit, comprising:
 - a first semiconductor switch for outputting by selecting either a base-band signal or a predetermined voltage;
 - a detection circuit for detecting a signal output from the first semiconductor switch;
 - a smoothing circuit for smoothing an output signal of the detection circuit;
 - a first differential amplifier circuit for differential-amplifying an output signal of the smoothing circuit;
 - a band gap reference voltage generation circuit for generating a reference voltage;
 - a second semiconductor switch for outputting by selecting either the reference voltage output from the band gap reference voltage generation circuit or the predetermined voltage;
 - a second differential amplifier circuit for differential-amplifying a signal output from the second semiconductor switch; and
 - an offset removal circuit for retaining outputs of the first and second differential amplifier circuits as an offset cancellation voltage when the predetermined voltage is selected by the first and second semiconductor switch, and removing an offset voltage included in a signal output from the first and second differential amplifier circuit based on the offset cancellation voltage.

2. (Original) A pilot signal detection circuit, comprising:
 - a first semiconductor switch for outputting by selecting either a base-band signal or a predetermined voltage;
 - a detection circuit for detecting a signal output from the first semiconductor switch;
 - a smoothing circuit for smoothing an output signal of the detection circuit;
 - a first differential amplifier circuit for differential-amplifying an output signal of the smoothing circuit;
 - a band gap reference voltage generation circuit for generating a reference voltage;
 - a second semiconductor switch for outputting by selecting either the reference voltage output from the band gap reference voltage generation circuit or the predetermined voltage;

a second differential amplifier circuit for differential-amplifying a signal output from the second semiconductor switch;

a current-to-voltage conversion circuit for converting an output current of the first differential amplifier circuit and a output current of the second differential amplifier circuit into respective voltages; and

an offset removal circuit for retaining an output voltage of the current-to-voltage conversion circuit as an offset cancellation voltage when the predetermined voltage is selected by the first and second semiconductor switch and removing an offset voltage by feeding the retained offset cancellation voltage back to an input of the current-to-voltage conversion circuit.

3. (Currently Amended) The pilot signal detection circuit according to claim[s] 1 or 2, wherein

said smoothing circuit comprises a capacitor, and

a third semiconductor switch which becomes an on-state when said first semiconductor switch selects the base band signal for charging the capacitor with an output voltage of the smoothing circuit, while becomes an off-state when the first semiconductor switch selects the predetermined voltage for retaining a voltage of the capacitor.

4. (Currently Amended) The pilot signal detection circuit according to claim[s] 1 or 2, wherein

said band gap reference voltage generation circuit generates the reference voltage by using a bipolar transistor formed on a MOS integrated circuit board.

5. (Currently Amended) The pilot signal detection circuit according to claim[s] 1 or 2, wherein

said offset removal circuit comprises:

a fourth semiconductor switch which becomes an on-state when said first semiconductor switch selects said predetermined voltage, otherwise becoming an off-state,

a capacitor for retaining output voltages of said first and second differential amplifier circuits or an output voltage of said current-to-voltage conversion circuit as an offset cancellation voltage, and

a third differential amplifier circuit for removing an offset voltage by feeding the offset cancellation voltage retained by the capacitor back to either the output of the first and second differential amplifier circuit or the input to the current-to-voltage conversion circuit.

6. (Currently Amended) The pilot signal detection circuit according to claim[s] 1 or 2, wherein

said detection circuit is a phase detection circuit for carrying out a phase detection of a pilot signal of a stereo complex signal.

7. (Original) A semiconductor integrated circuit forming, on a semiconductor integrated circuit board by a MOS process, a pilot signal detection circuit which comprises:

a detection circuit for detecting a base band signal;

a smoothing circuit for smoothing an output signal of the detection circuit;

a first differential amplifier circuit for differential-amplifying an output signal of the smoothing circuit;

a band gap reference voltage generation circuit for generating a reference voltage;

a second differential amplifier circuit for differential-amplifying the reference voltage; and

an output circuit for outputting a signal of a sum of outputs of the first and second differential amplifier circuits as a signal for indicating whether or not a pilot signal level is equal to, or greater than, the reference voltage.

8. (Original) A semiconductor integrated circuit, forming, on a semiconductor integrated circuit board by a MOS process, a pilot signal detection circuit which comprises:

a detection circuit for detecting a signal output from the first semiconductor switch;

a smoothing circuit for smoothing an output signal of the phase circuit;

a first differential amplifier circuit for differential-amplifying an output signal of the smoothing circuit;

a reference voltage generation circuit for generating a reference voltage;
a second semiconductor switch for outputting by selecting either the reference voltage output from the reference voltage generation circuit or the predetermined voltage;
a second differential amplifier circuit for differential-amplifying a signal output from the second semiconductor switch; and
an offset removal circuit for retaining outputs of the first and second differential amplifier circuits as an offset cancellation voltage when the predetermined voltage is selected by the first and second semiconductor switch, and removing an offset voltage included in a signal output from the first and second differential amplifier circuit based on the offset cancellation voltage.

9. (Original) The semiconductor integrated circuit according to claim 8, wherein said smoothing circuit comprises
a capacitor, and
a third semiconductor switch which becomes an on-state when said first semiconductor switch selects the base band signal for charging the capacitor with the output voltage of the smoothing circuit, while becomes an off-state when the first semiconductor switch selects the predetermined voltage for retaining a voltage of the capacitor.